Endoscopic vacuum therapy of a refractory esophagopleural fistula in a patient with Boerhaave syndrome, using an innovative hybrid stent

Esophageal perforation has a high morbidity and mortality [1]. Endoscopic treatments include the use of self-expanding metal stents (SEMSs) and endoscopic vacuum therapy (EVT). Recently, an innovative hybrid stent combining both approaches, the VAC Stent (Micro-Tech), has been approved [2].

A 45-year-old man was admitted with Boerhaave syndrome. Thoracic CT showed acute mediastinitis with bilateral pleural effusion. Upper endoscopy confirmed a 6-mm transmural defect in the distal esophagus that was treated using a 12 × 23-mm fully covered self-expanding metal stent (FCSEMS). Although the stent stayed in place the patient remained septic after 2 weeks. Oral contrast-enhanced computed tomography (CT) and methylene blue drainage into the right chest tube suggested persistent esophagopleural fistula. A stent-in-stent approach using a 155 × 23-mm FCSEMS to improve coaptation also failed to resolve the fistula after 6 weeks.

Placement of a VAC Stent was proposed (▶Video 1). During the procedure both FCSEMS were removed displaying purulent granulation tissue over the previous esophageal laceration (▶Fig. 1 a). A marking clip was placed 3 cm below at the gastric body and a metallic guidewire passed into the antrum. After saline irrigation, the introducer system was inserted transorally over-the-wire. The stent was successfully deployed under fluoroscopy (▶Fig. 1 b–d). The suction catheter was switched to the nose and connected to a vacuum pump at –120 mmHg during...
the first 24 h and then adjusted to –80 mmHg. Irrigation with 40 mL saline 3 times per day and starting on liquid diet after 72 h were advised. Stent removal was scheduled after 7 days with the pump being switched off the day before. The stent was detached by gently insinuating the endoscope between the stent and esophageal wall while irrigating profusely with saline. It was then removed by grasping the wire at the proximal end (▶Fig. 2). Esophageal inspection revealed extensive and friable granulation tissue. d Fluoroscopic control revealed no extravasation of contrast.

Endoscopy_UCTN_Code_TTT_1AO_2AZ

Funding Information

National funds from the FCT – Foundation for Science and Technology, I.P.
UIDB/04585/2020

Conflict of Interest

The authors declare that they have no conflict of interest.

References


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Endoscopy 2024; 56: E683–E684
DOI 10.1055/a-2363-8977
ISSN 0013-726X
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